

Florida researchers studying a bacteria to fight sting nematodes

By MARK LESLIE

FT. LAUDERDALE, Fla. — University researchers are feverishly at work to discover an anti-nematode that works effectively.

At the University of Florida at Ft. Lauderdale, entomologist and nematologist Robin Giblin-Davis has particularly studied

the effect of the bacteria *Pasteuria* on sting nematodes — by far the largest and deadliest of the nematodes on turf. Dr. Don Dickson of the University of Florida in Gainesville has done extensive research on *Pasteuria penetrans*, which works on root-knot nematodes. But

scientists have not been able to mass produce either type of *Pasteuria*.

This newly discovered bacteria *Pasteuria* is especially promising because it is parasitic and “usually very host-specific,” Giblin-Davis said. “The first one discovered, *Pasteuria ramosa*, attacks

water fleas. All the others discovered since then appear to attack nematodes.”

While several years of study have shown the *Pasteuria* has an effect on sting nematodes, Giblin-Davis said scientists have reached an impasse with mass-culturing them.

“It’s not easy to grow lots of

bacteria. And there are some things we still don’t understand,” he said. “More biology has to be done to find how they grow and sporulate.

“Another problem is that because it is so specific, it kills one nematode but then other kinds of nematodes move in.”

A California golf course may bring the answer. Soil with sting nematodes somehow got introduced into a Palm Springs course, and the soil doesn’t have the *Pasteuria*,” Giblin-Davis said. “So, working with Dr. Ole Becker at the University of California at Riverside, we will introduce the bacteria at fairly low amounts and see if it takes off. If it does, and we don’t need a lot of spores ... then we might be able to find sites or rear up fields of nematodes with the bacteria and hand out small batches of this for golf courses to try. We’re sort of working toward that.”

Dr. George Snyder of the University of Florida at Belle Glade said sting nematodes do not live well in root zones with 20 percent clay.

“That would solve the sting nematode problem, but with thousands of rounds of golf being played, you’d have compaction, fungus and other problems,” Giblin-Davis said.

“If I had lots of post-doctoral students working with me and hundreds of thousands of dollars in funding, we could speed up this process,” he said. “They spend millions of dollars looking at cancer and this isn’t any less complicated. But people are most concerned with medical health — and grass is not viewed as that important overall. It’s important if you’re a golf course superintendent and it means your job.”



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todes than new facilities.

And they wonder about the wisdom of the state’s decision to curtail the label on Nemacur, said Tim Hiers, superintendent at Collier’s Reserve in Naples.

“If you really need Nemacur,” Hiers said, “and you can’t use it properly — the way the original label says — the paradox is, you will use more water, more fertilizer, more pesticides, more herbicides, more labor, and more electricity for a less vigorous turf. How much sense does that make?”

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